



D i g i t a l W a s h i n g t o n
Moving government business to the internet

as estimated cost, staffing, revenue, and performance impact. Budget decisions will be linked to the agencies' strategic plans. The challenge facing any organization that wants to move its business to the Internet is keeping up with the rapid changes in technology. In the old analog world, it was possible to keep pace with the rate of technological change. The Internet, however, functions both as a source of information and the demand for technological knowledge. This spiraling dynamic has created a sharp increase in the rate of change between what we know and what we need to know, and results in a sizable learning gap that must be addressed in order to use the Internet to its full potential.

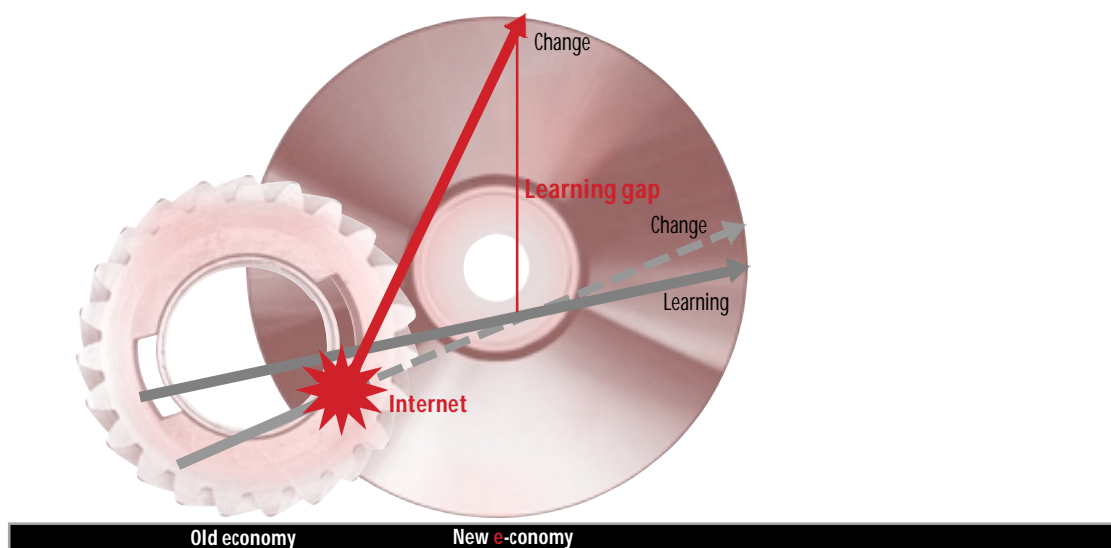
Setting apart a place where it is safe to do some real groundbreaking is one way to approach this problem. Boeing has done it with Phantom Works. There is Xerox PARC and Disney has Imagineering. Washington's answer is the Digital Government Applications Academy.

Digital Government Applications Academy

Washington established The Digital Government Applications Academy (Academy) partly as a response to the recognition that most of the state's application development efforts could utilize templates, and partly to provide support for agencies in putting their services online.

A place where multiple state agencies simultaneously develop Web-based applications, the Academy is a digital age entity founded on an industrial age lesson. The automobile industry demonstrated that a single chassis and engine design can support any number of body styles and suit any number of customer needs. Similarly, under the auspices of the Academy, Washington builds an e-service template once, so that any number of agencies can pattern any number of e-services on it. This approach avoids multiple reinventions, ensures that

Learning e-business



emerging e-services are aligned with statewide technical standards and architecture, and presents citizens with consistent programs that are instantly familiar to even a new user.

The business experience of self-selected agencies is combined with cutting-edge practices of industry experts and the input of customers. The facilitated sessions are highly focused and conducted apart from business as usual, in order to make decisions about common technology challenges and tackle the business transformation changes that come with moving public services to the Internet. Like a university, the Academy is a learning environment where collaboration and invention of the future abound to work on ways to deliver online government services using cutting-edge technologies and methods.

Class content is built around common problems that need solving

The agency members of an Academy course work on a common service—for example, the first class built a reusable online permit application. One agency is selected to actually develop its application as the class project. The class develops a syllabus that lists key

decisions to be made, the business processes to streamline, and the technology to design or develop. For example, these items might include order fulfillment, accounting for electronic payments, common tool selection, or technology integration. Each class decision is built into the class project so that participants and agencies observing via the Academy website can obtain immediate feedback on the quality of that decision. Internal industry experts like the Office of Financial Management, the State Auditor, and other oversight entities are consulted to ensure that controls are placed properly and that the business processes are efficient and can be audited.

The end products of an Academy course are the real application product developed in class, and the template. Numerous other applications are concurrently developed by class participants in their own agencies using the application template. Agencies can use Academy templates to build a similar e-service or to extract a single decision from the template and build a different e-service. Each e-service that comes from the Academy is developed around a common approach: decide, build, publish, and replicate.

Building privacy protections into application templates

The provisions of Governor Locke's Executive Order 00-03, requiring each executive state agency that operates an Internet web site to adopt a Model Privacy Notice, have been integrated into the state's new applications template for electronic permits. As designed, the Privacy Notice is prominently placed on all pages within the permit application where personal information is collected. The template-based approach to developing online services was pioneered by the Digital Government Applications Academy in consultation with participating agencies. The purpose of the template is to provide a common starting point in developing applications and a common look and feel from a citizen point of view, all the while avoiding unnecessary duplication of effort. Consistent use of the template in developing applications also means the consistent presence of privacy statements in digital government applications. The template approach, first applied to electronic permits, will be applied to advanced electronic forms and professional licensing in the months ahead.

A cross-agency group that sees the value of working together

Most importantly, business and technology leaders learn, decision by decision, how to put services on the Internet, how to create new value, improve service and add new business partners. They can lead or influence other projects back at their own agencies. This is an important way that Washington is making the cultural change to deliver on-line services, agency by agency. Sustaining a growing core of people who see the value of working together across agencies to deliver Internet services is as much a product of the Academy as the finished applications and templates. These concepts, as well as the full vision for the Academy, are contained in its charter and can be found in the appendix.

The first Academy course, e-Permits 101, developed an electronic permits (e-permits) template through the work of six agency

participants and two private sector vendors, Carta Internet Solutions and R&G Associates. Together, they, produced an application that provides online permits for boat moorage: people who wish to moor their boats in state parks can now use the Internet to pay for a moorage permit with a credit card, then print it instantly from their personal computers. Participants worked on nine other permitting functions at the same time, including an electrical permit offered by the Department of Labor and Industries.

Two dozen agencies have joined for the second Academy course, e-Forms 101. The focus of the class is to enable deployment of new digital government transactions through the common use of an advanced electronic forms package. The course is broken into two phases. With broad agency input, the goal of phase one is to acquire an e-forms package via a master agreement for use by state and local



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Academy Course e-Permits 101

The Academy is where people are encouraged to think differently, challenge assumptions, take risks with new ideas, imagine the future, and then build it.

A screenshot of a web browser displaying the Washington State Parks website. The page title is "Welcome to Washington State Parks". The main heading is "Buying a moorage permit on-line is as easy as 1, 2, 3...". Below this, there are three numbered steps: Step 1: Enter your permit information (you'll need to know your boat's length and registration number). Step 2: Enter your credit card payment information and submit your order. Washington State Parks will not retain your credit card payment information. Step 3: Have your printer ready to print your temporary permit. This permit allows the use of Washington State Parks overnight moorage facilities for 10 days. Your Permanent decal will be mailed to you within 10 days. At the bottom, there are two buttons: "Return to information" and "Go to Step One". A footer contains contact information: "For questions, please call us at (800) 862-0800, Monday through Friday 8am - 5pm. Individuals with a TDD phone may use our Telecommunications Device for the Deaf at (866) 864-3133. This line is answered Monday through Friday 8am - 5pm." and a copyright notice: "Copyright © 2000 Washington State Parks".

Department of Agriculture

Controlled Atmosphere Licenses

Fruit and Vegetable Certificates

Grain Certificates

Hops Certification

Seed Certification

State Parks and Recreation Commission

Boat Moorage and Watercraft Launch Permit

Department of Natural Resources

Geology Maps and Information

GIS Data Sales

Department of Ecology

Burning Permit

Department of Labor and Industries

Electrical Permits

Department of Transportation

Interstate Trucking Permit

government agencies. In phase two, agencies actually build their applications as industry experts share information on how to build an end-to-end e-form transaction.

There is also considerable interest across agencies to work on professional licensing in the Academy setting. This growing demand to participate in the Academy, where agencies willingly build similar applications, is another indication that a critical mass of agencies is pushing toward the successful transformation of the state into a single enterprise.

Digital Government as Core Competence

Washington has strong and close relationships with private sector information technology (IT) companies, and uses contractors and vendors for services in significant but carefully chosen ways that do not abandon government's basic responsibilities to citizens. Telecommunications services, for instance, are significantly outsourced, with 89 cents of every revenue dollar going to private vendors. Private sector vendors have been heavily involved with the Academy, as well as constructing various components of the infrastructure.

The distinction between using subcontractors to build and support digital government and subcontracting out the entire digital government function is one that hinges on maintaining ownership of the relationship between citizens and their government. Washington believes that transforming service delivery using Internet technologies is a core competence of government. By doing its own digital government development, Washington can deliver secure, accessible, and convenient services in formats that are responsive and cost-effective for its citizens and businesses.

This approach also allows Washington to lead cross-jurisdictional digital government efforts. The next phases of digital government will continue to partner with the best of the private sector's talents, abilities, and innovations, while maintaining control of the vision, the data and quality of the service delivery, and, most importantly, the relationship with the citizen.

The Internet and the Experience Economy

The advance of Information Technology is unstoppable. The Internet is the fastest growing technology in the history of the world, increasing by 600 percent in the last five years.¹³ Of all Americans twelve years or older, 64 percent have used the Internet in the past year.¹⁴

The explosion is even more dramatic for Internet retailing, growing from \$26 billion in 1997 to a projected \$330 billion for the next fiscal year, and expected to top \$1000 billion by 2005.¹⁵

In one year, 1998 to 1999, the amount of business-to-business transactions on the Internet grew from \$43 billion to \$145 billion.¹⁶ Clearly it is this astounding rate of growth that leads Andy Grove, Chairman of Intel, to remark that "In five year's time, all companies will be Internet companies or they won't be companies at all."

Because business plays a large role in shaping citizen perceptions of how the world should operate, digital government is becoming imperative. Citizens want it now, expect it in the very near future and will demand it in one form or another in just a few years. And where there's demand, the Internet marketplace is very quick to respond. Private sector offerings of government services

¹³ Harris poll, Dec 1999

¹⁴ A C Nielsen

¹⁵ Organization for Economic Cooperation and Development

¹⁶ Forrester Research Group and Gartner Group

from companies such as vital stats.com, simplegov.com, govworks.com and ezgov.com have already entered the Internet arena. While the state experience demonstrates many positive ways to partner with the private sector, it is not enough to hand off citizen and business transactions to a third party. The continued relevance of and public trust in government relies on maintaining a direct relationship with the citizen.

Building more quality into online experiences is the new competitive edge. The consumer's experience is being recognized as a separate economic offering by some sectors, along with goods, and services. The argument is that as instant comparative shopping over the Internet reduces goods and services to pure commodities, differentiated only on the basis of price—the shift to staging a positive experience is the next step in the economy's evolution. By focusing on the nature of the shopping experience, organizations can give their customers something that is engaging, satisfying, and unique to the marketplace. Washington believes that the best citizen experience is one in which government delivers service in a manner that emphasizes utility and accessibility. Customization can be one way to deliver these attributes, in the proper circumstances, and technology, applied correctly, is the means for delivering a one-on-one experience to a large and diverse population.

Washington recognized the role experience plays in building stronger, more personalized relationships in Release 1.0 of the Digital Government Plan. With its emphasis on a single look and feel for all applications regardless of the controlling agency, its attention to security, and its emphasis on a user interface that is intuitively understandable, Washington demonstrated its commitment to a positive

online experience for its citizens. This commitment continues to be a central theme in Release 2.0, with plans to make the new community an even better, more personalized place. The digital infrastructure provides the capacity to deliver personalized government, including the use of a natural language search engine, central registration, single sign-on and digital certificates for personalized transactions, e-checks and trading partner strategies, and an incentive program to help agencies deliver the highest possible value through their applications.

The Growing Community

Release 1.0 of the Digital Government Plan introduced us to the Community of Value, those state agencies, boards, committees, and other entities that worked together to build Digital Washington, and who continue to work diligently and cooperatively in its development. But digital government is more than just state government—it's one government, made up of local, state, and federal government entities.

In the interim six months the community's activities have attracted the attention of several additional governmental entities. Some, other states and nations, have come simply to watch, learn, and take their observations back to other places. Others,—local government and education specifically—have expressed an interest in rolling up their sleeves and joining the effort to construct one government online. The Legislature has already made significant contributions to the effort, and the justice community continues to work in support of the state's digital government efforts.

The Legislature provided \$10 million for

711, Laws of 2000, to provide the Governor with a flexible pool of funds to allow agencies to undertake digital government initiatives. Both OFM and DIS will review applications for funding to determine if pool funding criteria are met, including improvement in service delivery, reduction in waiting period, efficiency improvement, reduction in the unit cost of service, and improving the quality of a citizen's access to state government.

Newcomers to the Community of Value

The new members of the community have a precedent for working together across governmental lines in Washington, as there are previous intergovernmental projects of interconnectivity and data sharing networks that create seamless government. The Intergovernmental Network (IGN), the Justice Information Network (JIN), and the K-20 Educational Telecommunications Network are the most notable. In addition, several existing intergovernmental IT advisory groups and task forces have begun the discussion about digital government and are among the most likely new members to the community of value:

The Association of Counties and Cities Information Systems (ACCIS), which acts as a liaison to the DIS Customer Advisory Board, state and local subcommittee, is composed of the chief information system officers from counties and cities. ACCIS promotes communication links among information systems of counties and cities, represents the interests of their information systems to state officials, advocates for legislation affecting data processing operations, and educates local officials and officers on roles, responsibilities, and requirements of their information system departments.

ACCIS has embraced the Digital Government Plan as an "exciting technological vision for enhancing government efficiency and capability, while significantly improving our customers experience with government functions." (The full text of the ACCIS endorsement is included in Release 2.0 as an appendix.) The group is working towards a uniform approach to security within and among political subdivisions.

The Justice Information Committee (JIC)

is a subcommittee of the ISB and is chaired by the DIS Director. Its members are state justice agency directors and local justice officials. The JIC provides policy oversight and approves all data and information standards for the JIN.

The Criminal Justice Information Act (CJIA) Executive Committee provides operational oversight for JIC initiatives and has statutory responsibility for developing and implementing recommendations regarding justice information system improvements. One such improvement is the justice community's decision to build an Internet based Summary Offender Profile (SOP) for every criminal. Functioning under the domain name of johnqcriminal.com, the profiles will represent a "one stop shopping center" for the essential information needed by justice agencies on a daily basis to facilitate the movement of an offender's case through the justice process. The project draws on data from multiple agencies and is sponsored by state and federal justice partners. Once completed, the SOP will be a digital government application that improves efficiencies and reduces waiting periods and costs for justice agencies at all levels of government.

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The Washington State Geographic Information Council (WAGIC) is a partnership of federal, state, local, and private entities devoted to using geographic information systems (GIS) information in concert to address critical issues facing government.

The education community, building on the centerpiece K-20 network, is championing many aspects of digital government. Online access to information, classes, and administrative transactions, as well as personalized services are all available throughout the higher education institutions. Yahoo! has named three of Washington's six universities as among the top 100 most wired universities in the country.

The University of Washington (UW) also offers students and alumni a web portal, "My UW", that personalizes online applications. Students can look up their own class schedules, tuition balances, Husky card balances (that allow electronic payment of everyday costs such as meals and parking fees), grades, and financial aid status. Each student's "My UW" site also offers e-mail access, the day's news stories, and access to search engines. Financial aid awards can be directly deposited into bank accounts, and "My UW" allows electronic payments to the University from student bank accounts. Registration, including the ability to add and drop classes, will be available for fall 2000 classes.

In addition to the Universities' work, the Office of the Superintendent of Public Instruction is currently developing the

Washington Virtual Education Space, or WAVES, a class 5 web portal that will provide online tools and implementation strategies individualized for each educator, student, and parent in the state to enable them to increase student achievement in a standards-based curriculum. WAVES will be back-end integrated with all fiscal, student record, and human resources systems used by K-12 schools in the state. A prototype will be available in fall 2000.

The Internet and Cultural Change

The need for delivering government over the web in a seamless way is understood at varying levels by many government groups. Some are not only transforming their services to the public, they are transforming their own internal cultures to be more technologically oriented. The Department of Labor and Industries has established its own Internet Strategy Review Board. Other agencies are implementing new Internet tools such as LISERVs® and have designed, built and implemented over 70 new applications for their own internal use (see portfolio of applications for list).

Over time, as citizens become increasingly sophisticated in their use of digital services, the expectation of uniformity in e-processes, regardless of the governmental level involved, will grow. At the same time there is a need to educate all governmental agencies, state, local and federal on the level of effort, capacity, coordination, citizen focus, and most of all, commitment needed to transition to digital government.

As John C. Scott, a senior consultant in IBM's NY-NJ Metro Systems Integration and Application Development Practice, says, government at all levels "needs to discuss

the best practices that will allow us to deal with this brave new world. We know we need to be an adaptive enterprise, we know we need to deal with chaos and uncertainty, and we know we have to absorb if not embrace new technologies, new paradigms, and new methods.”¹⁷ Leaders and knowledge workers must “have good discipline, must get comfortable in a world full of ambiguity, must accept chaos, and must work with less than perfect information. He or she must accept late changes to the design, must accept responsibility for failures and successes, and most importantly, must accept responsibility for technical and moral renewal. His or her worth will always be measured by his or her ability to grow.”¹⁸

The transition to digital government offers limitless opportunity to establish not just changed, not just improved, but new relationships among government, citizens and businesses. Washington is purposefully and consciously moving through this transition with an eye to the need for outreach to its partners and not just allowing it to happen ad hoc.

The Citizen Experience

As the various components of digital government have evolved from objectives into accomplishments, the vision and philosophy for digital government has also matured. In the past, citizens presented themselves to a government that stood between them and the information or services they wanted. In contrast, digital government gives citizens direct access to information and services on their terms, without regard to the government agency behind the counter or service. This requires the bureaucrat who used to control that

information, and indeed all of government, to take on a whole new role in serving the citizen. Instead of being served at arm’s length as a customer, the citizen has now assumed her rightful place as the owner and must be regarded and respected as a shareholder in the business of government. And it is this citizen who will define the details and determine the future nature of digital government.

In observing that the next Internet revolution will be one of e-government, The Economist observes, “Governments are under pressure to meet rising expectations of service. Not many people enjoy dealing with government: they do it because they have to. But that does not mean the experience has to be as dismal as it usually turns out to be. As increasing numbers of consumers become used to the quality of service offered by the best web retailers and service providers, their willingness to accept slum standards in the public sector is coming under strain. If the same 24-hour, seven-days-a-week availability and convenience, fast delivery, customer focus and personalization become the norm in the public sector, it would not just make life easier, it would fundamentally change the way that people view government itself.”¹⁹

The Economist goes on to point out that one of the reasons for public sector inefficiency—bureaucracy—is that while most departments are organized vertically, many of the services that they have to deliver require a complicated, horizontal approach across departments. The Internet offers a solution to the problem through the use of portals, which allow the information and service offerings to be reorganized in ways that meet citizen needs, such as by life events or through the natural

¹⁷ John C. Scott, *Best Practices for a Brave New World*, theedge@cutter.com

¹⁸ *ibid.*

¹⁹ Matthew Symonds, “The Next Revolution”, *The Economist* June 28, 2000

language search engines, without frustrating the citizen with complexities behind the scenes.

A study performed by Deloitte & Touche, which polled senior managers of global government agencies, confirms that putting the citizen in charge makes good business sense:

"Customer-centric governments achieve nearly 50 percent more success in providing easier customer access, increasing service volume, getting better information on operations, reducing employee complaints, reducing employee time spent on non-customer activities and improving their own image."²⁰

The citizen's input on what applications should look like and how they should behave is as important to digital government as the homebuilding client's wishes, tastes and dreams are to the architect and builder of a house. As the final judge in whether or not an electronic service is successful, citizens are included in every phase of application development. At the Digital Government Applications Academy, the citizen or business user is included in the development and strategy of every application from day one, and user input and experience are considered the virtual DNA of any Academy-developed template. Using focus groups to follow up on the level of customer satisfaction has shown that Washington's new applications are being well received. The Electronic Tax Filing (ELF) application, developed by the Department of Revenue, is valued because it can be customized, and payments can be made using electronic funds transfer. Feedback on the Department of Labor and Industries' online Quarterly Report filing application shows that businesses are comfortable that the system will

be secure, are pleased with the idea of an electronic payment option and value access to historical and rate information.

Addressing the "digital divide"

Moving government to the web means all citizens must be considered. Unlike the private sector, government cannot select its customers and many government services are directed precisely to those segments of the population

which are least likely to be connected to the Internet: the elderly, the poor, the undereducated and the rural remote.

The digital divide can be traced to two separate causes, one of access and one of knowledge. With the continuing decline in the price of PCs and the promotional offering of free PCs for the price of connectivity, there is considerable promise for self-correction where access is concerned. The problem of knowledge, and with it the fear or lack of desire to be online, is one that Washington believes can be addressed in part by making the user's experience as easy, intuitive and successful as possible. Digital government's success in this regard was addressed in Release 1.0 of the plan, with its emphasis on a common look and feel

to all applications, an enterprise wide approach, and applications that are easy to use. Moreover, digital government benefits all citizens, even those who are not online. By quickly and efficiently serving growing numbers of citizens over the Internet, Washington can provide the remainder with better, more personalized service through its traditional methods.

²⁰ "Deloitte Research Study Reveals Public Sector Customer Service Initiatives Fueling Global Emergence of e-Government." Businesswire.com, 6-13-2000

deliver connectivity to citizens in eastern Washington as well. These efforts are for both educational and non-educational customers, and build upon the state transport network that provides the infrastructure for high speed, high bandwidth statewide telecommunications. This network uses leased lines; Washington's commitment to be an anchor tenant encouraged private sector telecommunications carriers to take IT infrastructure and capacity to all areas of the state. This strategy also allowed Washington to take advantage of its position as a volume buyer of telecommunications goods and services to keep costs down. As a result, Internet usage stands at 65 percent statewide, according to a study conducted for the Governor's Office by the Washington State University.²¹

Enabling more access in schools and libraries

For example, the statewide K-20 Educational Telecommunications Network utilizes an existing transport network and connects all of Washington's public school districts, community and technical colleges, and baccalaureate institutions—over 400 sites that serve over one million students from kindergarten through graduate school. The enabling legislation provides that public libraries will also be connected, giving Internet access to all Washingtonians, including those who are place-bound and living in rural areas.

The network not only brings the Internet, video-based services, and distance learning capabilities to schools that would otherwise have poor IT access, but it also brings general information technology capabilities to citizens all across the state. Last year the Governor and the Legislature enacted a package of rural economic development bills to encourage investment in information technology

infrastructure in rural areas and the training or re-training of citizens in rural communities. By directly connecting users from various sectors, flattening geographic barriers, and minimizing the digital divide among schools, the K-20 network is producing technologically savvy students who will become members of a technologically savvy workforce, and addressing both aspects of the digital divide at once.

Washington is building digital government for the use of the two thirds of the state who are capable of using it now, but the benefits will be felt by all. By moving significant numbers of transactions and workload to the Internet, the state unlocks resources to serve the remaining numbers with more personalized, effective attention through traditional methods.

The Business of Digital Government

Along the way to making digital government a reality, Washington has discovered and implemented some innovative concepts. Rapid application development and replication through the use of templates is one of the most powerful. It was discovered through development of the business model and has been implemented in the Digital Government Applications Academy.

The Digital Government Business Model

Digital Washington employs a business model where the digital government applications are organized along a theoretical line of complexity, with the least complicated applications to the left and the most complicated to the right. Starting with simple applications and making them more complex progressively adds things like payments, digital signatures, encryption, and, at the most complex, single sign-on.

²¹ Washington State Customer Quality Survey, Dave Pavelchek Social & Economic Sciences Research Center, Washington State University, 1999.

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Applications that fall to the left, or less complex side, tend to have common components, stand alone, and are often the first implementation of an application that is likely to be replaced later by a more complex implementation. Because of these features, simple applications can be built very quickly by utilizing a template to reproduce the common features rather than developing them from scratch every time.

Moving to the right side of the complexity continuum engages security architecture and the custom build approach for application development. These development projects are much more complex, robust, with complicated workflows, and security-sensitive data.

By ranking the first 100 or so prospective applications identified in the original Digital Government Plan along the complexity continuum, it turns out that 85 percent fall to the left side of the business model. These applications can be built very quickly by utilizing templates and common components. The remainder require the more complex components of underlying infrastructure, some of which is now complete, and some which will be completed during phase two of the infrastructure development.

The business model provides a lens for examining government's supply chain, and can be extended to transform government's supply chain into a digital value chain, and restructure government's relationship with its trading partners.

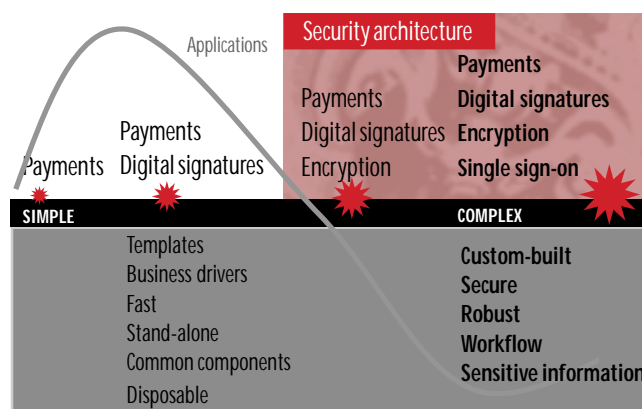
The Trading Partner Strategy

In most communities, visitors are welcomed and treated hospitably but they are not well known by the people with whom they do business. Their cash transactions are handled routinely by local businesses but they are likely to be asked to verify their identity when requesting lodging or an extension of credit.

E-business model

"Start small, scale fast, deliver value. In other words, it is important to bank some quick wins from smaller projects that achieve what they set out to do ... before moving on to bigger things...."

The Economist, June 24, 2000



In contrast, other area businesses, national suppliers, or public agencies have regular and recurring transactions among themselves. They are known to each other, have routine credit arrangements with each other, and may have authorized access to each other's loading docks or facilities. In short, they are trading partners.

So it is in Digital Washington. There are thousands of businesses and other entities that have regular and recurring relationships with government. That relationship may be characterized by some combination of receiving payment for goods or services provided to (or on behalf of) the state, making quarterly workers compensation filings, meeting reporting requirements, or paying taxes. By conventional means, these businesses find themselves dealing with numerous agencies—not a single trading partner—each with its own forms, accounts receivable processes, and reporting requirements.

The infrastructure of digital government makes possible a new trading partner strategy that streamlines data entry, payments, and disbursements across the state enterprise. It begins with the opportunity for businesses to enter Digital Washington through one gate and navigate among different agencies' service applications using one electronic user credential. From there, trading partners streamline the means by which they are paid for services rendered, and make payments for any assessments.

The trading partner strategy is important to two of the three major categories of digital government: government-to-business (G2B), and internal operations, or government-to-government (G2G). The third category, government-to-citizen (G2C), is largely unaffected. The main impact of the trading partner strategy on the citizen is in her role as a taxpayer, because she stands to benefit from greater efficiencies and lower operating costs in government. The state's five million residents, in the vast majority of the cases, can remain anonymous in their online dealings with government.

A prime example

In a prime example of the benefits that can be realized from the trading partner strategy, the Department of General Administration (GA) is implementing its Ultimate Purchasing System (UPS) as a new way of doing business online. UPS is designed to help agencies stretch their limited resources by providing a convenient online method for purchasing goods and services. By consolidating the more than \$1 billion in purchases by state agencies, school districts and other public organizations, GA can track which goods and services customers buy most often and can seek lower prices through volume buying.

The system is similar to other online operations where customers select items, place them in a digital shopping cart and pay electronically. Orders are sent directly to vendors, speeding confirmations and deliveries. UPS also adapts to numerous public agency financial systems, providing end-to-end online transactions that allows users to spend less time processing paper.

The initial release of the Trading Partner Strategy will be finalized this fall by the Digital Government Executive Steering Committee. A new relationship between the state and its business partners is foundational to realizing the efficiencies of transforming the supply chain.

**Value Chain and Investment Model:
Toward an Advanced Financial Strategy
to Digital Government**

Digital government marks a significant milestone in transforming the conventional supply chain to become an Internet-enabled government value chain. Put another way, the Internet may enable the public sector to deliver on its promise of transforming government.

The 2000 Legislature continued its practice of creating funding pools for specific opportunities by establishing the Digital Government Fund. It set aside \$10 million dollars in spending authority to support the state's Internet strategy. The proper stewardship of these funds is an important next step in building an advanced financial strategy to sustain and mature the transition to digital government. At least three questions need to be addressed:

- What is the source of funds to cover initial development costs of the new Internet channel?
- How are costs recovered to support continued operations and maintenance of the new channel?
- How are additional costs mined out of the business practices of government to expand the new channel and be made available to support new opportunities?

To be most useful, information about digital government costs must be compiled and analyzed from a full costs basis, utilizing a unit of service as the common denominator. By calculating the fully loaded costs of providing one unit of service in the traditional manner to the fully loaded costs of providing the service electronically, an accurate comparison of the real financial impacts can be achieved.

For digital government, cost alone is insufficient justification for investment. Electronic commerce applications must provide a return on investment that is calculated through a business case analysis. This includes exploration of business issues: how does the application improve service delivery, reduce waiting periods, improve efficiencies, support cross-cutting agency service delivery, as well as reduce the cost of a unit of service—what is the time to market for the new services?

In the private sector, these are questions of the venture capitalists. The state can adopt a similar model by requiring that projects, which tap the fund, be considered investments that are expected to produce real dollar returns. These returns can be used to make subsequent investments in other applications. Agencies are accountable (ultimately) to each other for their use of the investment fund dollars, and success creates and expands opportunities for additional investments in digital government.

As a large-scale purchaser of goods and services, government can take a lesson from the private sector to reduce costs and make tax revenues go further. According to analysis published by The Economist, "The potential for savings comes from the

sheer scale of public-sector spending and from the opportunities to make internal processes more efficient. American federal, state and local procurement spending on materials and services this year will be around \$550 billion. Some big private-sector companies are now achieving annual savings in the region of 20 percent by putting their supply chains on the web. If government services in the United States could replicate that, they could save \$110 billion a year.”²²

The pending launch of next generation digital government applications brings with it the policy issue of disrupting the existing supply chain in ways that extract inefficiencies and drive traffic to the new Internet channel—all with a view to realizing the attendant savings. The first release of a model or policy framework for an advanced financial strategy to digital government is transitioning to a new Government Value Chain is due by year’s end.

The Digital Readiness Guide

Another tool for implementing digital government quickly, easily and effectively is the Digital Readiness Guide, which is currently under development in conjunction with the Center for Digital Government. Its purpose is twofold. The first is to give agencies a way to get started on the digital transformation of turning government to face the people. The second is to help them be successful in their endeavors.

The successes and failures of private sector dot.coms provide valuable lessons for the public sector, and the critical success factors and common pitfalls they have identified can

easily be modified into guiding principles for the public sector. The readiness guide uses these lessons to provide a way for agencies to quickly and accurately determine their readiness to move into digital government and then plan and act accordingly to ensure success.

The guide identifies four critical drivers of success in the digital government arena. They are:

- commitment, including leadership, integration of business and technical goals, organizational mindset, culture, and organizational structure;
- customer focus, including strategy, navigation, incentives, feedback, and prioritization of opportunities;
- coordination with stakeholders, including adoption of statewide policies, utilization of available infrastructure, consideration of statewide goals, and participation in digital government steering and advisory committees; and
- capability, including resources, technical maturity, flexibility to implement new technologies, change management, and sourcing strategies.

The Digital Readiness Guide includes a multiple-choice test that agencies can use to score themselves. The test identifies the relative strengths in each of the four areas and determines if the areas are aligned to work together. The guide also helps agencies examine and address those areas that may have underutilized potential or those that need remediation. Finally, the guide promotes an incremental approach to launching applications on the Internet, starting with putting up information on the web site as a first step and then making it more interactive as the agency’s sophistication and readiness

²² Matthew Symonds, “Survey: Government and the Internet: The next revolution: After e-commerce, get ready for e-government,” *The Economist*, June 24, 2000.

scores increase. The Digital Readiness Guide is due for release in October 2000.

The Digital Washington Building Code: The Applications Template and Outfitting Model (ATOM)

Early models and prototypes of what has become Digital Washington date back five years. In a half decade of experience with pilot and proof-of-concept activities, the family of agencies has increasingly realized the need for a building code for the .gov Internet community. They have recognized the need for a common way to hook up to the infrastructure. Such an approach helps ensure that well behaved applications can co-exist with each other and, together, provide a common citizen experience while ensuring that the operations of one application do not conflict with those of others. Most recently, the community of value has done considerable work on common approaches to the technology, business, and authorizing processes of building Internet applications. In a brick and mortar community, such a common approach is called a building code. In Digital Washington, it has been codified as a unified project planning and integration model called ATOM.

The Applications Template and Outfitting Model (ATOM) builds on a half decade of experience with emerging technologies. It takes the guesswork out of starting a project—and much of the research and heavy lifting out of finishing it. ATOM walks project teams through the process of developing and executing applications in the Digital Washington environment – each task, step by step, start to finish.

ATOM provides a mechanism to mine time and effort out of the process of developing new Internet applications to create new electronic services. Agencies never have to start from scratch again—neither does any private contractor hired to help them.

With ATOM, developers use a common set of building blocks in Internet applications while taking advantage of a consistent approach to project planning and securing the necessary authorizations and approvals. ATOM details:

- How to prepare the project business plan
- When to conduct a cost benefit analysis (CBA)
- Who to contact for web server hosting and securing an Internet application
- What approvals or authorizations are needed when and from whom, and
- How to implement credit card payments with an application.

The outfitting model assumes underlying commonality even among apparently dissimilar Internet applications. In fact, experience has demonstrated that key design elements and functionality can be commoditized and, in fact, have been. Specifically, application templates allow developers to reduce time, cost, and effort by commoditizing common components:

Security	Help Desk
Payments	Portal
Access Control	User Interface
Digital Signatures	Navigation
Archive	Project Planning

The use of common components brings at least four significant benefits to the orderly development of Digital Washington. First, it helps to ensure a common experience for citizens and business users of public sector Internet applications. Second, it helps ensure the development of well-behaved applications that will co-exist peacefully within the shared environment and on the user's desktop. Third, it drives development costs down

because neither the agency nor its contractor has to re-invent ten major aspects of Internet development. Fourth, and most importantly, it allows all parties to play to their core strengths.

Agencies and, at their discretion, contracted developers are free to focus on those things where they add unique value – including but not limited to business transformation, back-end integration, business rules, and marketing.

User's View of ATOM

Business Consultant Lamar Smith.

Lamar owns and operates an Internet web site development business in Yakima, WA. He wants to know how the state builds digital government applications to help him bid on and complete projects. He specifically wants to know when they need the user interface designed and what standards or guidelines they should follow. Lamar logs into Access Washington, clicks on Digital Government, and then on ATOM. Within minutes Lamar has a detailed step by step plan he uses to consult the agency that just called. He even clicks on and downloads web style guide templates. He then uses ATOM to build the estimate, and subsequently after receiving the work order, to actually build the application. Lamar saved hours of research and processing time and was able to communicate the project plan and updates to the agency easily with each state business and technical requirement. The agency was also pleased Lamar's work had the look and feel of other applications used around the state to make it easy for the citizens and business owners who use them.

Agency Project Manager Lisa Johnson

Lisa has been a project manager in her agency for the past two years. She has good experience with managing projects but spends much of her time gathering business needs, learning updates to state standards and guidelines, and especially learning about how to incorporate new technologies like electronic payments (e-payments) and web security. With ATOM, Lisa uses the template to keep up to date on current technologies, state guidelines and standards, and learns exactly how to implement a credit card transaction into her agency's application. For Lisa, ATOM saved hours of research time and coordination work. Now it is "point and click."

Whether seen through the perspective of agencies, the private sector, or taxpayers, ATOM delivers a compelling value proposition.

For an agency, ATOM reduces three of the ugliest problems of any IT development project: time, cost, and risk. By identifying key project steps that are unique to Internet development, ATOM promotes a successful outcome in a timely manner. By verifying that agencies consult with key stakeholders and check policies at the appropriate stage in the lifecycle, ATOM assures that the project will meet with final approval from the community. ATOM saves expenses by avoiding missed steps and project delays. ATOM guides the integration of the project into the new infrastructure and fosters the enterprise approach, which not only helps the agency benefit monetarily from the state's economies of scale, but helps the final application function more smoothly.

For the private sector IT vendor, contracting for projects based on the ATOM template saves time, risk, and hassle. ATOM streamlines

the approach to developing Internet applications

in state government, so everyone knows what to expect during development. There are no missed steps and change orders are minimized since optimal use of infrastructure, adherence to state policies, and compliance with interface, behavior, and common look and feel guidelines are ensured. The requirements and expectations are clear, the definitions phase is reduced, the contracting and development processes are streamlined, the vendor takes on less risk and can therefore offer their services at lower prices. ATOM creates a win-win situation for everyone: the state, the private sector vendor, the taxpayer and the user.

A working model of ATOM was developed through multi-agency collaboration in the Digital Government Applications Academy. Components of the model are being used by project teams in a number of agencies. Their experience, coupled with process validation with key players in the public sector, will be integrated into the initial release of ATOM, scheduled for September 2000.